

**REMARKS**

**Response to Claim Rejections**

The Office Action requests that the reference to “ $N$ ” frequencies in claims 6 and 10 be changed to “ $F$ ” frequencies. As indicated on at least page 5 of the specification,  $N$  is the total number of frequencies available for frequency hopping, while  $F$  is the number of frequencies in a hopping state,  $\mathbf{H}$ , over which a wireless endpoint is constrained to hop, where  $F$  is less than or equal to  $N$ . Therefore, Applicants respectfully submit that claims 6 and 10 appropriately indicate an initial hopping set of size  $N$  frequencies.

The Office Action also requests that claims 22, 24 and 26, which claim “a memory for storing a hopping set comprising  $N$  frequencies” should be changed to --a memory for storing a hopping set comprising  $F$  frequencies--. Similar to the objections to claims 6 and 10, Applicants respectfully submit that the present specification provides support for existing claims 22, 24 and 26.

Accordingly, Applicants respectfully request withdrawal of the pending objections and allowance of claims 6, 10, 22, 24 and 26.

**The Section 112 Rejections**

Claim 9 was rejected under 35 U.S.C. §112, the Office Action stating that the feature “the step of shifting” in claim 9, line 2, requires an antecedent basis. Applicants respectfully traverse this rejection for at least the following reasons.

As presently understood by Applicants' attorney, the Office Action appears to be objecting to the form of claim 9. However, it is respectfully submitted that when an additional step or method is claimed, the format "the step of" is appropriate and does not require an additional antecedent basis, e.g., "a" or "an" preceding step.

In addition, it is respectfully submitted that the scope of claim 9 can be reasonably ascertained by those skilled in the art and, therefore, is not indefinite (see MPEP 2173.05(e)).

Accordingly, Applicants respectfully request withdrawal of the pending rejection and allowance of claim 9.

**Section 102 and 103 Rejections**

Claims 1, 3, 5, 6, 8-10, 12-17, 19, 21, 22 and 24-26 were rejected under 35 U.S.C. §102(b) as being anticipated by Kung et al., U.S. Patent No. 4,654,859 ("Kung"). In addition, claims 1, 3, 5, 6, 10, 15, 17, 19, 21, 22, 24 and 26 were rejected under 35 U.S.C. §102(b) as being anticipated by Emi, U.S. Patent No. 5,541,954 ("Emi"). Finally, claims 2, 4, 7, 11, 18, 20, 23 and 27 were rejected under 35 U.S.C. §103(a) as being unpatentable over Kung.

Applicants respectfully disagree and traverse these rejections for at least the following reasons.

As indicated in the Office Action, neither Kung nor Emi discloses or suggests the pseudorandom selection of a hopping frequency, as is required by each of the claims of the present invention. In fact, both references teach away from the use of a pseudorandom selection of a hopping frequency.

Kung selects a frequency by cycling through an ordered frequency set in a predetermined fashion. In contrast, the present invention pseudo-randomly selects a hopping frequency. The fact that Kung discloses the selection of a frequency by cycling through an ordered frequency set in a predetermined fashion, explicitly teaches away from pseudorandom selection of a hopping frequency, as is required by the claims of the present invention.

Emi appears to disclose a frequency hopping scheme where a receiver counts errors it has received on each given frequency. If a total error count exceeds some metric, then the received frequency will be deemed unusable and an alternative, unused frequency will be substituted in its place. There is nothing in Emi which teaches the pseudorandom selection of a hopping frequency, as is required by the claims of the present invention. One of ordinary skill in the art, on reading Emi would not equate Emi's substitution of a new frequency with pseudorandom frequency hopping selection, as is required by the claims of the present invention.

In the Office Action, it is stated that "it is well known in the art that a frequency hopping spread spectrum carrier hops on a predetermined pseudo

random pattern." Applicants wish to respectfully point out at least two things regarding this statement in the Office Action.

First, the claims do not require "a predetermined pseudorandom pattern." Instead, all that is required is a pseudorandom selection of a hopping frequency.

Second, Applicants respectfully submit that this is an inappropriate basis for rejecting the claims based on 35 U.S.C. §103(a). Only in limited circumstances should claims be rejected based on "common knowledge." Such a rejection, unsupported by documentary evidence should only be taken when the facts asserted to be common knowledge in the art are capable of instant and unquestionable demonstration of being so known.

Applicants respectfully submit that the pseudorandom selection of a hopping frequency from a set of  $N$  or  $F$  frequencies is not capable of instant and unquestionable demonstration as being well known, given the fact that none of the references cited in the Office Action discloses or even suggests such a feature.

Because there is no form of evidence offered in the Office Action to support an assertion of common knowledge or specific factual findings predicated on sound technical and scientific reason to support the rejection, Applicants respectfully request that the Section 103 rejections be withdrawn and claims 3, 4, 7, 11, 18, 20, 23 and 27 be allowed (see MPEP 2144.03).

Should there be any outstanding matters that need to be resolved in the present application, the Examiner is respectfully requested to contact John E. Curtin at the telephone number of the undersigned below.

In the event this Response does not place the present application in condition for allowance, applicant requests the Examiner to contact the undersigned at (703) 668-8000 to schedule a personal interview.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 08-0750 for any additional fees required under 37 C.F.R. § 1.16 or under 37 C.F.R. § 1.17; particularly, extension of time fees.

Respectfully submitted,

HARNESS, DICKEY, & PIERCE, P.L.C.

By

John E. Curtin, Reg. No. 37,602  
P.O. Box 8910  
Reston, Virginia 20195  
(703) 668-8000

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